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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/342,926	06/30/1999	KAZUYOSHI SUMIUCHI	862.2906	7299

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EXAMINER
TRAN, DOUGLAS Q

ART UNIT	PAPER NUMBER
2624	13

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/342,926	SUMIUCHI, KAZUYOSHI	
	Examiner	Art Unit	
	Douglas Q. Tran	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *CPA filed 2/25/03* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,10,12 and 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10,12 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 2/25/03 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/342,926 is acceptable and a CPA has been established. An action on the CPA follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 6-7, are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ohta (US Patent No.6,108,008) and Yen et al. (US Patent No. 6,151,025).

As to claim 1, Ohta teaches that an image processing apparatus for generating image data, having a plurality of color component units, to be outputted by using data conversion, the apparatus comprising:

A first storage (105 in fig. 9), arranged to store at least one conversion color table, wherein data of the conversion color table (i.e., LUT 105 in fig. 9) are arranged in order according to a set of grid point number in each color component unit (i.e. in LUT 105, the data are arranged based on position of different color space in the three dimensional value including color C, color M, color Y, and color K,. the conversion table is prepared in

advance by measuring colors recorded in the combination of CMYK unit, col. 13, lines 21-35, and col. 14, lines 38-39);

A converter (111 in fig. 10), arranged to convert the input color data (i.e., input color data RGB in 110 of fig. 9) to the color component data (i.e., output color data CMYK in 111 of fig. 9) using the expanded conversion table (since using a data conversion table in the interpolating method, the color conversion data is expanded to the results of about 4,096 color measurements. Therefore, using a color conversion table, which is used for interpolating method, is considered as the expanded conversion table, col. 13, lines 35-37).

However, Ohta does not teach at least one lookup table is compressed.

Yen teaches lookup tables are stored in the memory (ROM) in a compressed format and decompressed at run time (col. 6, lines 51-54).

It would have been obvious to modify the conversion table of Ohta is stored in the memory (ROM) in a compressed format and decompressed at run time as taught by Yen. The suggestion for modifying the system of Ohta can be reasoned by one of ordinary skill in the art as set forth by Hoshino because the table can be stored in a compressed format which uses considerably less memory space and faster speed.

As to claim 2, Ohta teaches that storage means for storing the expanded color conversion table data (105 in fig. 7).

As to claim 3, Ohta teaches that the converter (100 in fig. 2) converts color space (CMYK value, col. 12, lines 45-46).

As to claim 4, Ohta teaches the color component data includes a black color (i.e.,K is the black data in the color component data CMYK).

As to claim 6, Ohta teaches that an input section (9 in fig. 6) for inputting a command indicative of print instruction and data indicative of a print medium characteristic (9 and 60 in fig. 6); and

A selector (5 in fig. 6), for selecting one of expanded conversion tables in accordance with the data indicative of the print medium characteristic (9 and 60 in fig. 6, col. 12, lines 45-47).

As to claim 7, the combination of Ohta and Yen teaches the method is performed by the apparatus claim 1 as indicated above.

4. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ohta, Yen, in view of claim 1 and/or 7, and Yoshino et al. (US Patent No. 6,204,933 B1).

As to claims 5 and 10, the combination of Ohta and Yen teaches every feature in claim 1 and 7.

However, neither Ohta nor Yen teach sorter arranged to sort data in the expanded color conversion table.

Yoshino teaches the conversion table data is sorted (col. 9, lines 45-46).

It would have been obvious to modify the conversion table data of the combination of Ohta and Yen is sorted as taught by Yoshino. The suggestion for modifying the system of Ohta and Yen can be reasoned by one of ordinary skill in the art as set forth by Yoshino because Yoshino provides the processing system for processing the color in the printing data for a color printer in which the conversion data sorted in table that allows the mapping and converting is easily controlled and processed in the color correction system.

5. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Yoshino et al. (US Patent No.6,204,933 B1) and Hoshino (US Patent No. 5,317,426).

As to claims 12 and 14, Hoshino teaches:

Input data of the color conversion table data where combinations of plural color component data (Y', M', and C') are arranged by grid points; and compressing the conversion color table data (col. 6, lines 50-59).

However, Hoshino does not teach the conversion table data is sorted.

Yoshino teaches the data of the color in table is sorted (col. 9, lines 45-46).

It would have been obvious to modify the conversion table data of Hoshino is sorted in the table as taught by Yoshino. The suggestion for modifying the system of Hoshino can be reasoned by one of ordinary skill in the art as set forth by Yoshino because Yoshino provides the processing system for processing the color in the printing data for a color printer in which the conversion data sorted in table that allows the mapping and converting is easily controlled and processed in the color correction system.

Response to Arguments and Amendment

Applicant's arguments filed 2/25/03 have been fully considered but they are not persuasive.

Applicant asserted that " In particular, the applied art (Ohta) is not seen to disclose or suggest storing at least one compressed conversion table, wherein the data of the compressed conversion table are arranged based on positions of grid points in a color component unit, and an expander, arranged to expand the compressed conversion table

for subsequent use in conversion of input color data ". In reply, Ohta teaches the data of the conversion table (i.e., LUT 105 in fig. 9) are arranged based on position of grid points in a color component unit (i.e. CMYK, col. 13, lines 21-35, and col. 14, lines 38-39); a converter (111 in fig. 10), arranged to convert the input color data (i.e., input color data RGB in 110 of fig. 9) to the color component data (i.e., output color data CMYK in 111 of fig. 9) using the expanded conversion table (since using a data conversion table in the interpolating method, the color conversion data is expanded to the results of about 4,096 color measurements. Therefore, using a color conversion table, which is used for interpolating method, is considered as the expanded conversion table, col. 13, lines 35-37).

However, Ohta does not teach at least one lookup table is compressed. In order to submit the deficiency of Ohta, Yen teaches the lookup tables are stored in the memory (ROM) in a compressed format and decompressed at run time (col. 6, lines 51-54). Therefore, the LUTs of Ohta can be compressed and stored in the memory (i.e., ROM) and expanded when using data in the tables for converting the input color data to the output color data.

Applicant asserted that " in Ohta ... are not seen to have the data contained therein arranged based on positions of grid points in a color component unit." In reply, Ohta clearly teaches the data values contained in LUT arranged based on positions of grid points (positions of different color values in the LUT includes 4 colors spaces C, M, Y, K; and these tables are prepared in advance by measuring colors recorded in the combinations of CMYK values reproducible by the recording device, and placing the

CMYK values of the colors on the lattice points of the corresponding LUT , col. 13, lines21-28).

Claims 12 and 14 are not amended and kept the same rejection, although Applicant asserted in page 8 that claim 12 is amended.

Applicant asserted that: " Yoshino is not seen to remedy the foregoing deficiencies of Hoshino with respect to independent claim 12." In reply, Yoshida clearly teaches the data in the table is sorted for necessary to carry out the color processing is set (col. 9, lines 45-46). Yoshida teaches the well known in the prior art that the number of data in the table either a small number of data or larger number of data in the table would be sorted. This method can be applied to any data in the table to prepare for processing the input data to the output data.

For the above reasons, it is believed that the cited prior art fully discloses the claimed invention and the rejection stand.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas Q. Tran whose telephone number is (703) 305-4857 or
E-mail address is Douglas.tran@uspto.gov.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Douglas Q. Tran
May 15, 2003

Tranlong